REMARKS

In the Office Action dated September 17, 2010, claims 1-9 are pending and all claims are rejected. Reconsideration is requested for at least the reasons discussed herein.

A replacement Figure 11 is submitted herewith wherein the figure is designated with the legend --Prior Art-- as requested by the Examiner.

The above amendment to the claims is submitted to more particularly point out the subject matter regarded as invention. No new matter is added. Support for the amendment can be found throughout the specification; see, particularly paragraph [0082].

Claims 1, 2 and 5 are rejected under 35 U.S.C. §102(e) over Jung (US 2002/0179004). The Examiner contends that Jung anticipates the present claims. Applicants strongly disagree. Jung fails to disclose or suggest at least a process using two masks and two laser beams to irradiate overlapping regions of an amorphous material and, subsequently, changing the relationship between the two masks and the substrate so that the first mask in the sequence is used to project a laser beam that overlaps the previous region irradiated by the second mask and, after the displacement, the second mask irradiates a new second region that overlaps the new first region irradiated by the first mask.

To the contrary, Jung teaches moving a single mask to provide a second region overlapping the first region exposed through the single mask.

Jung also fails to disclose or suggest that the amorphous material in a molten state in the first and/or the second regions is irradiated with an additional laser beam which has an energy amount lower than the energy amount necessary for the amorphous material in a solid state to melt.

Thus, it is not seen how Jung anticipates the presently claimed invention. Further, it is not seen how the presently claimed invention would have been obvious to one of ordinary skill in the art in view of Jung.

Claims 1, 3 and 4 are rejected under 35 U.S.C. §102(b) over Park (US 6,326,286). The Examiner contends that Park anticipates the present claims. Applicants strongly disagree. Park also fails to disclose or suggest at least a process using two masks and two laser beams to irradiate overlapping regions of an amorphous material and, subsequently, changing the relationship between the two masks and the substrate so that the first mask in the sequence is used to project a laser beam that overlaps the previous region irradiated by the second mask and, after the displacement, the second mask irradiates a new second region that overlaps the new first region irradiated by the first mask.

To the contrary, Park teaches moving a single aperture (i.e., mask) to provide a second region overlapping the first region exposed through the single mask.

Park also fails to disclose or suggest that the amorphous material in a molten state in the first and/or the second regions is irradiated with an additional laser beam which has an energy amount lower than the energy amount necessary for the amorphous material in a solid state to melt.

Thus, it is not seen how Park anticipates the presently claimed invention. Further, it is not seen how the presently claimed invention would have been obvious to one of ordinary skill in the art in view of Park.

Claims 7 and 8 are rejected under 35 U.S.C. §102(e) over Tanaka (US 2003/0024905). The Examiner contends that Tanaka anticipates the present claims. Applicants strongly disagree. Tanaka fails to disclose or suggest at least a laser processing apparatus having two projection masks wherein the first and second projection masks are positioned so that the first and second regions irradiated on the surface of the layer formed of the amorphous material overlap by a predetermined amount.

To the contrary, Tanaka teaches beams irradiating separate regions on a surface, wherein the irradiated regions are separated by a distance at least equal to the laser beam width. No positioning of the beams to provide overlapping irradiated regions in the same cycle is even suggested.

Tanaka also fails to disclose or suggest the use of an additional laser light source for emitting a laser beam for irradiating the amorphous material in a molten state in the first and/or the second regions, wherein the laser beam emitted from the additional laser light source has an energy amount lower than the energy amount necessary for the amorphous material in a solid state to melt.

Thus, it is not seen how Tanaka anticipates the presently claimed invention. Further, it is not seen how the presently claimed invention would have been obvious to one of ordinary skill in the art in view of Tanaka.

Claim 6 is rejected under 35 U.S.C. §103(a) over Jung in view of Okumura (US 6,372,039). Claim 6 has been cancelled. However, because the subject matter has been incorporated into the independent claims, Applicants will discuss this rejection.

Jung is discussed above. It is not seen how Okumura makes up for the deficiencies of Jung. For example, Okumura also fails to disclose or suggest at least a process using two masks and two laser beams to irradiate overlapping regions of an amorphous material and, subsequently, changing the relationship between the two masks and the substrate so that the first mask in the sequence is used to project a laser beam that overlaps the previous region irradiated by the second mask and, after the displacement, the second mask irradiates a new second region that overlaps the new first region irradiated by the first mask.

Because both Jung and Okumura fail to disclose or suggest at least a process using two masks and two laser beams to irradiate overlapping regions of an amorphous material and, subsequently, changing the relationship between the two masks and the substrate so that the first

mask in the sequence is used to project a laser beam that overlaps the previous region irradiated by the second mask and, after the displacement, the second mask irradiates a new second region that overlaps the new first region irradiated by the first mask, it is not seen how their combination will do so.

The second laser beam of Okumura, which the examiner equates to the additional laser beam of the present invention, has a second beam profile which includes: a first beam profile region having a first energy density which is lower than a micro-crystallization threshold value Ea of an amorphous semiconductor for forming a polycrystallization region; and a second beam profile region having a second energy density which is <u>not lower than the micro-crystallization threshold value Ea</u> and is lower than a micro-crystallization threshold value Ep of a polycrystalline semiconductor for forming a first micro-polycrystallization region from an amorphous semiconductor region (column, 9, lines 3-13, emphasis added). Therefore, the energy amount of the second laser beam of Okumura is equal to or higher than an energy amount necessary for the amorphous material in a solid state to melt.

The energy amount of the additional laser beam, recited in claims 1 and 7, is advantageous in reducing the cooling rate (speed) of the molten material, which facilitates large crystals to grow. Okumura does not disclose or suggest use of a second laser beam for reducing the cooling rate of the molten material.

Thus, it is not seen how the presently claimed invention would have been obvious to one of ordinary skill in the art in view of any combination of Jung and Okumura.

Claim 9 is rejected under 35 U.S.C. §103(a) over Tanaka in view of Okumura. Tanaka is discussed above. It is not seen how Okumura makes up for the deficiencies of Tanaka. For example, Okumura also fails to disclose or suggest at least a laser processing apparatus having two projection masks wherein the first and second projection masks are positioned so that the first and second regions irradiated on the surface of the layer formed of the amorphous material overlap by a predetermined amount.

Further, as discussed above, the second laser beam of Okumura, which the examiner equates to the additional laser beam of the present invention, has a second beam profile which includes: a first beam profile region having a first energy density which is lower than a micro-crystallization threshold value Ea of an amorphous semiconductor for forming a polycrystallization region; and a second beam profile region having a second energy density which is not lower than the micro-crystallization threshold value Ea and is lower than a micro-crystallization threshold value Ep of a polycrystalline semiconductor for forming a first micro-polycrystallization region from an amorphous semiconductor region (column, 9, lines 3-13, emphasis added). Therefore, the energy amount of the second laser beam of Okumura is equal to or higher than an energy amount necessary for the amorphous material in a solid state to melt.

The energy amount of the additional laser beam is advantageous in reducing the cooling rate (speed) of the molten material, which facilitates large crystals to grow. Okumura does not disclose or suggest use of a second laser beam for reducing the cooling rate of the molten material.

Thus, it is not seen how the presently claimed invention would have been obvious to one of ordinary skill in the art in view of any combination of Tanaka and Okumura.

Applicants respectfully submit that the pending application is in condition for allowance. An early reconsideration and notice of allowance are earnestly solicited.

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Respectfully submitted,

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